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Meeting Reports/Abstracts

Lack of Demographic Information in The Research Related to Total Joint Arthroplasty

Katelynn Donnelly, MS[1a], Hannah Theriot[2b], John Bourgeois, MPH[2c], Andrew Chapple, PhD[2d], Peter C. Krause, MD[2e], Vinod Dasa, MD[3f]

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a Ms. Donnelly is a third-year medical student at LSUHSC New Orleans and interested in orthopedics.

Connect with Ms. Donnelly on LinkedIn

Conflicts of Interest Statement for Ms. Donnelly

b Ms. Theriot is a 3rd year medical student as LSU in New Orleans. She is currently pursuing a career in surgery and will be applying to General Surgery residency programs. Her current research interests include social determinants of health and the impact these have on patient access and quality of healthcare.

Conflicts of Interest Statement for Ms. Theriot

c Mr. Bourgeois is the Library Manager for Cummings School of Veterinary Medicine at Tufts University. Prior to moving to Massachusetts, he was at LSU Health - New Orleans as the liaison librarian to the Schools of Public Health and Graduate Studies plus the coordinator for the library's Research Data Management Services. Prior to health sciences librarianship, he was the Head of Access Services for Nicholls State University library in Thibodaux, Louisiana, for three years. Before becoming a librarian, he worked as a research coordinator after getting his MPH in Epidemiology. His research interests tend to focus on the practical, such as the use of existing datasets for quality improvement and the assessment of instructional efficacy.

Visit the Cummings School of Veterinary Medicine at Tufts University Library Website

Conflicts of Interest Statement for Mr. Bourgeois

d Dr. Chapple is an expert in adaptive clinical trial designs, particularly Bayesian methods. His 2019 paper "A hybrid Phase I-II/III clinical trial design allowing for dose re-optimization in Phase III" proposed a new framework for seamless drug development through the three stages of clinical trial design. This paper was recognized globally by the statistical community when it received the award for "Best Paper" from Biometrics, a top tier statistical journal.

Dr. Chapple has produced many new trial designs and methods, which are accompanied with user-friendly R packages. Dr. Chapple trained under Dr. Peter Thall at MD Anderson, who is a pioneer in Bayesian adaptive trials. He later refined these skills working with cancer researchers from other institutions. Dr. Chapple's adaptive trial designs were used to dose-find in pediatric brain tumors in a trial conducted at Harvard and the Dana Farber Cancer Center.

Dr. Chapple has designed hundreds of studies and has supported many research departments at LSUHSC including: Orthopedics, OBGYN, Hematology Oncology, Dermatology, Oral Surgery, Endodontics, Cancer, Virology, Cellular Biology, Inflammation, and treatment disparities research. As a joint professor in Orthopedics, Dr. Chapple works on large scale electronic records databases which requires processing longitudinal information from patients on hospital encounters, diagnoses, procedures, prescriptions, and lab values.

Visit the Dr. Chapple's Profile on LSU Health New Orleans

Connect with Dr. Chapple on LinkedIn

Conflicts of Interest Statement for Dr. Chapple

e Dr. Krause is an orthopaedic trauma and arthroplasty surgeon with Louisiana State University at the University Medical Center in New Orleans, specializing in acute and chronic trauma and complex hip reconstruction. He has research interests in complex trauma, in disparities in care, and utilizing databases to answer orthopedic surgery questions.

Visit the Open Payments Data Page for Dr. Krause

Conflicts of Interest Statement for Dr. Krause

f Dr. Dasa currently serves as vice chair for academic affairs for the department of orthopedics, Irvin Cahen endowed chair for research, chair of the LSU clinical practice leadership group. He is the co-founder and chief medical officer for an innovative start up, SIGHT Medical and helped co found a novel medical education platform called DOC SOCIAL.

His research interests cover all areas of adult orthopaedics focusing on joint replacement, knee arthritis, health disparities and outcomes research. He is one of the few surgeons in the world performing outpatient opioid free total knee replacements allowing patients to recover in the shortest time possible.

Visit Dr. Dasa's Profile on the LSUHSC's Website

Visit Dr. Dasa's Profile on Doc Social

Connect with Dr. Dasa on LinkedIn

Visit the Open Payments Data Page for Dr. Dasa

Conflicts of Interest Statement for Dr. Dasa

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THE PROBLEM

"Despite research showing how social determinants of health (SDOH) affect orthopedic outcomes, little is known about how many THA and TKA randomized controlled trials (RCTs) actually include SDOH variables such as race, ethnicity, insurance, income, and education."

THE APPROACH

"My co-authors and I conducted a PubMed literature review of RCTs published from 2017-2019 in four orthopedic journals: *The Journal of Bone and Joint Surgery (JBJS)*, *Journal of Arthroplasty, Clinical Orthopaedics and Related Research (CORR), and Osteoarthritis and Cartilage*."

"Using our inclusion criteria that the study must pertain to either TKAs or THAs and include a patient demographic table, we ended up with 72 publications. We collected data on the publication year, type of surgery, and the inclusion of race, ethnicity, insurance, income, and education in the demographic table or discussion."

"In addition, we performed an analysis of counts and percentages of SDOH variables by journal year, journal name, and surgery type; Fisher's exact tests were used for comparison."

THE RESULTS

"We found that race was discussed in 4 of the manuscripts, and only included in 3 of the demographic tables. Ethnicity was discussed in 3 manuscripts and included in 1 demographic table, while insurance, income, and education were not included in any of the discussions or demographic tables. None of the SDOH variables were included in any of the multivariable regressions. Overall, only 5 of the manuscripts included any 1 of the SDOH variables, and only 3 included any of these variables within the demographic table. Therefore, there is a less than 10% reporting rate of any of the SDOH variables."

"Looking at the publications broken down by year, journal, and surgery type, we found that in 2017 there were only 2 publications that discussed any one of the SDOH variables, only 1 in 2018, and 2 in 2019. We found an insignificant difference within the 3 years analyzed, showing that there was no significant improvement and there was not an occurrence of just one bad year."

"When broken down by journal type, no publications met the inclusion criteria in *Osteoarthritis and Cartilage*. Only 4 publications from the *Journal of Arthroplasty* discussed any of the SDOH variables; 1 publication in *CORR* addressed these variables, but no articles in *JBJS* looked at SDOH. We found an insignificant difference when broken down by journal type. They were also divided by the type of surgery, and we found that there was an insignificant difference."

"Thus, when looking at 72 publications, we found that SDOH variables are vastly underreported in the TKA/TKA literature. There is growing evidence that SDOH variables impact outcomes and should be considered as consequential as gender and body mass index."

"Inclusion of these SDOH variables allows researchers to determine the applicability of RCT findings to various patient populations outside of this study. We found an insignificant difference over the 3 years analyzed. It is also important to note that we only looked at RCTs, meaning

Figure 1. Summaries of Social Determinant Variable Inclusion

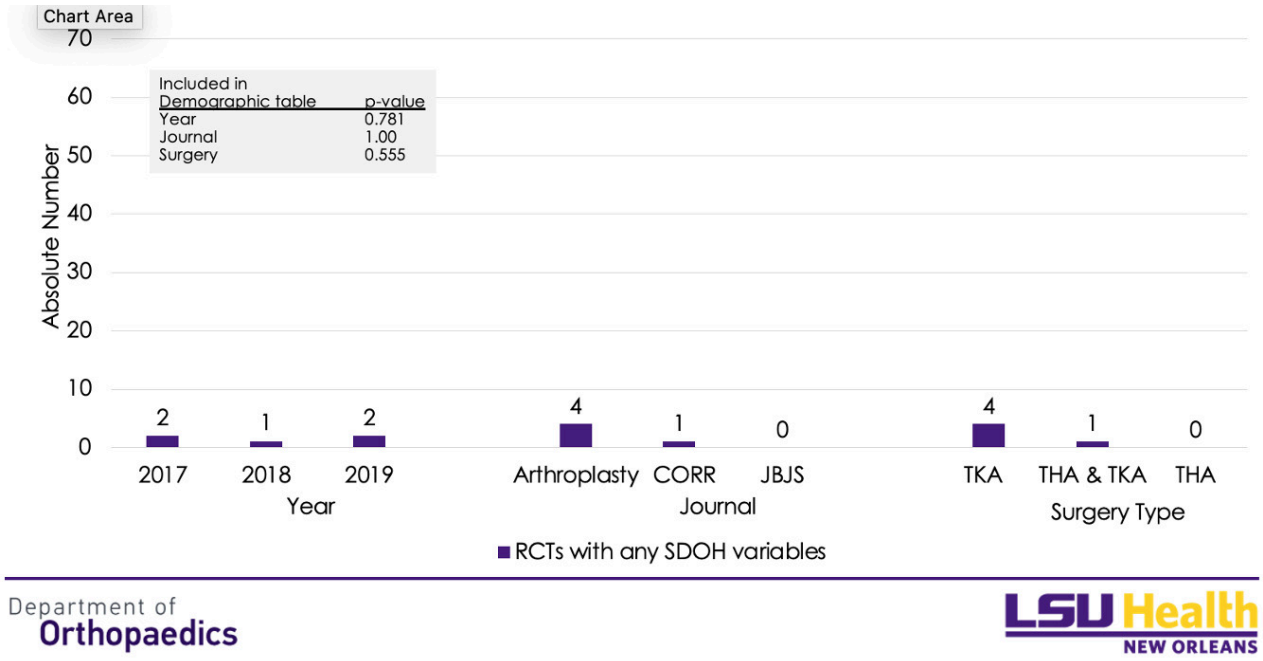

Figure 2. Publications by, Year, Journal, and Surgery Type

that investigators had the choice of considering SDOH variables."

"In conclusion, there is a significant shortcoming in the inclusion of SDOH variables in the TKA/TKA literature. Exclusion of these variables when establishing national standards and policies may be indirectly perpetuating disparities."

"Research that does not rely on representative patient samples should be used with caution. We are advocating for the standardization of the inclusion of SDOH variables. Our call to action is that journals and their audiences should demand greater inclusivity and diversity in research."

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